Oxidative stability of crude and refined kenaf (Hibiscus cannabinus L.) seed oil during accelerated storage

ABSTRACT

Kenaf seed oil has been suggested to be used as edible oil but there is limited information available about the oxidative stability of refined kenaf seed oil. An oxidative stability test was performed on crude and refined kenaf seed oil under accelerated storage at 65ºC for 24 days. The results showed that refined oil underwent higher oxidation than the crude oil, as indicated by the peroxide value (40.55 meq/kg), p-Anisidine value (18.78) and total oxidation value (99.87) in refined oil at day 24. There was no significant difference in the free fatty acid value in refined oil during the accelerated storage. Oleic acid remained the most abundant in the fatty acid composition of kenaf seed oil, followed by linoleic acid and palmitic acid during storage. The unsaturated fatty acids decreased slightly coupled with a slight increase in the saturated fatty acids in kenaf seed oil during storage. Refining process decreased the oxidative stability of kenaf seed oil, but the refined kenaf seed oil was able to maintain good quality in free fatty acid value and fatty acid composition.

Keyword: Linoleic acid; Oleic acid; Refining process; Total oxidation value